7. FISH PROCESSING, INDUSTRY, AND TRADE

Over the past three to four years, the United States has taken steps to use international trade information to further U.S. conservation policy related to Atlantic HMS. While these steps may seem small and the process slow, it is important to note that by working multi-laterally, management actions taken by the United States are strengthened and provide protection from a challenge in World Court. U.S. actions related to trade must be consistent not just with domestic fisheries legislation, but also with the General Agreements of Tariffs and Trade (GATT). In September 2000, the ICCAT Advisory Committee was presented with a great deal of information regarding the use of trade data to enhance compliance at a workshop led by NMFS, NOAA, and Department of State trade experts. Following that workshop, the U.S. delegation supported a 2000 ICCAT recommendation that would require countries to increase documentation and monitoring of trade in bigeye tuna and swordfish for compliance purposes.

Because there are "missing links" surrounding the harvest, processing, and trade of Atlantic HMS, NMFS cannot recreate information about stock production based on trade data. Nevertheless, trade data is used to update information on international and domestic activities related to these fisheries and to question compliance with ICCAT management measures. Sharks are not included in ICCAT recommendations, however, in December 2000, a bill was signed that requires the Secretary of Commerce to ban shark finning in the United States and to begin discussions on developing agreements to prohibit shark finning internationally. Section 7.1 reviews species-specific U.S. trade information collected in the past year. Section 7.2 provides information about the use of trade data for conservation purposes.

7.1 Overview of U.S. Trade Activities for HMS

Processing

The processing and trade-related entities that depend on Atlantic HMS are as diverse as the species and products themselves. Processing ranges from the simple process of dressing and icing swordfish at sea, to elaborate grading and processing schemes for bluefin tuna, to processing shark fins. Like all other seafood, HMS are perishable and may pose health hazards if not handled properly. Products range from those having a long shelf-life, such as swordfish, to highly perishable species like yellowfin tuna. Improperly handled yellowfin can produce histamine, swordfish and sharks may contain high levels of mercury, and shark meat requires careful handling due to the high concentrations of urea in the body of the shark. Processing companies are aware of these characteristics and their costs of doing business vary accordingly to protect consumers. The Food and Drug Administration (FDA) works closely with NOAA Office for Law Enforcement to monitor incoming shipments of seafood, including highly migratory species.

FDA's Seafood Hazard Analysis Critical Control Point (HACCP) program regulations

require processors of fish and fishery products to operate preventive control systems for human food safety. Among other things, processors must effectively maintain the safety of their products, systematically monitor the operation of critical control points to ensure that they are working as they should, and keep records of the results of that monitoring. Processors must also develop written HACCP plans that describe the details and operation of their HACCP systems. Each processor may tailor its HACCP system to meet its own circumstances. The best way for FDA to determine whether a processor is effectively operating a HACCP system is by inspecting the processor to assess whether the system is operating properly and is appropriate for the circumstances. Review of monitoring and other records generated by the HACCP system is a critical component of an inspection because it allows the inspector to match records against practices and conditions being observed in the plant and it discourages fraud. NMFS works closely with the FDA, in support of the HACCP program.

Just as HACCP plans vary between processors, transportation of the seafood to market also varies widely from the direct domestic sale of some shark or swordfish meat by a fisherman to a restaurant (carried by truck) to the quick, and sometimes complicated, export of bluefin tuna from fisherman to dealer to broker to the Japanese auction (carried by commercial airline carrier). Frozen swordfish and tunas are often brought to the United States by overseas shipping companies and sharks and other products may be exported from the United States, processed overseas, and imported in a final product form.

It is unknown how many U.S. companies depend on HMS fisheries, other than those who buy fish directly from U.S. fishermen and those who import bluefin tuna or swordfish. The proportion of those companies that depend solely on Atlantic HMS versus those that handle other seafood and/or products is also unknown. This section provides a summary of the most recent trade data NMFS has analyzed, as well as a brief description of the processing and trade industries employed in transitioning Atlantic HMS from the ocean to the plate.

Processing and Wholesale Sectors

Quantitatively, NMFS has limited information on the processing sector, i.e., the amount of HMS products sold in processed forms. In addition, knowledge regarding the utilization of Atlantic HMS is largely limited to the major product forms. For example, bluefin tuna are usually shipped and sold in dressed form at fish auctions in Japan. Information on the processing sector of the Atlantic bluefin tuna fishery is detailed in the HMS FMP (Section 2.2.4.1). Other Atlantic tunas, especially bigeye tuna, are frequently shipped fresh to Japan in dressed form. Swordfish are sold fresh and frozen in dressed form and processed products (e.g., steaks and fillets). The utilization of sharks is also not well known since trade statistics frequently do not indicate product forms such as skins and leather, jaws, fishmeal and fertilizer, liver oil, and cartilage (Rose, 1996). Domestically-landed sandbar and blacktip shark meat may be sold to supermarkets and processors of frozen fish products. NMFS continues to work with industry to collect information specific to U.S. and foreign processing of Atlantic HMS to better track markets, conserve stocks, and

manage sustainable fisheries.

The U.S. processing and wholesale sectors are dependent on both the U.S. and international HMS fisheries. Individuals involved in these businesses buy the seafood, cut it into pieces that transform it into a consumer product, and then sell it to restaurants or grocery store chains. Employment varies widely among processing firms and may be seasonal unless the firm relies on imported seafood or a wide range of domestic seafood. The majority of firms handle other types of seafood and are not solely dependent on HMS. Other participants in the commercial trade sector include brokers, freight forwarders, and carriers (primarily commercial airlines, trucking, and shipping companies). Swordfish, tunas, and sharks are important commodities on world markets, generating significant amounts in export earnings in recent years. NMFS has received comments in the past year indicating the social demographics of some processing firms, particularly in South Carolina and Louisiana. NMFS considers social information on all sectors of HMS constituents when evaluating impacts of proposed regulations.

In recent years, NMFS has observed many seafood dealers that buy and sell highly migratory species and other seafood products expand their operations into Internet-powered trading platforms specifically designed to meet the needs of other seafood professionals. Through these platforms, interested parties can conduct very detailed negotiations with many trading partners simultaneously. Buyers and sellers can bargain over all relevant elements of a market transaction (not just price) and they can specify the product needed to buy or sell in all detail, using seafood- specific terminology. The platforms are purportedly very easy to use because they mimic the pattern of traditional negotiations in the seafood industry. NMFS expects that the use of the Internet will change the way HMS trade occurs substantially in the future and NMFS staff continue to learn about new technologies being used by our constituents.

Monitoring International Trade of HMS

Understanding the harvesting and processing sectors is essential when analyzing world trade in highly migratory fish species. Trade data for Atlantic HMS are of limited use as a conservation tool unless they indicate the flag of the harvesting vessel, the ocean of origin, and the particular species landed. Under the authority of the Atlantic Tunas Convention Act and the Magnuson-Stevens Act, NMFS collects this information while monitoring international trade of bluefin tuna and swordfish. The bluefin tuna and swordfish monitoring programs (and upcoming bigeye tuna program) implement ICCAT recommendations and support rebuilding efforts by collecting data necessary to identify nations and individuals that may be fishing in a manner that diminishes the effectiveness of ICCAT fishery conservation and management measures. Copies of all documents may be found on the HMS webpage at www.nmfs.noaa.gov/sfa/hmspg.html.

Bluefin Tuna Statistical Document

Of the Atlantic HMS, the international trade of bluefin tuna is perhaps the best tracked

due to international adoption of an ICCAT recommendation to implement the Bluefin Statistical Document (BSD) program. This process is bolstered by Japan's support for the program as a major importer of bluefin tuna. Each bluefin tuna is tagged and documented and the BSD travels with each shipment until the final point of destination. This document tracks *imports* and *exports* of bluefin tuna by most ICCAT nations. If bluefin tuna are exported from, or imported to, the United States, the document is submitted to NMFS as part of the monitoring program.

Yellowfin Tuna Form 370

Since the late 1970's, NOAA Form 370 has been used to document imports of yellowfin tuna and other species of tuna for the purposes of protecting dolphins in the eastern tropical Pacific Ocean. Form 370 is filed with other documents necessary for entry into the United States and is then forwarded to NMFS's Southwest Regional Office. The form is *not* required for fresh tuna, animal food, or canned petfood made from tuna.

Swordfish Certificate of Eligibility

The United States also monitors the trade of swordfish, but only as it relates to the sale of Atlantic swordfish in U.S. markets. Monitoring U.S. imports of swordfish is facilitated by the use of U.S. Customs data, the Certificate of Eligibility (COE), and importer activity reports. The U.S. COE program was established to implement an ICCAT recommendation that allows countries to ban the sale of swordfish less than the minimize size. The United States is successfully monitoring swordfish imports through this program and is providing useful information on Atlantic swordfishing activities to ICCAT. If swordfish shipments enter the United States under the swordfish tariff codes required by U.S. Customs regulations, the shipments can be cross-checked with a COE that indicates the flag of the harvesting vessel and the ocean of origin. Furthermore, the COE validates that the imported swordfish were not less than the U.S. minimum size of 33 lb dressed weight. In order to implement a 1999 ICCAT recommendation to prohibit the import of swordfish harvested by Belize and Honduras, Japan implemented a swordfish monitoring program in 2000 that is similar to the U.S. COE program. In addition, at its 2000 meeting, ICCAT agreed to develop international statistical document programs for Atlantic swordfish and bigeye tuna. Such programs are to be modeled in principle after the ICCAT BSD program. The target data for implementation of these new international programs is January 2002.

Billfish Certificate of Eligibility

A Certificate of Eligibility is used to document that any billfish being imported or sold in the United States outside of Pacific states is not of Atlantic origin. In the Pacific states, billfish involved in trade are presumed to be of Pacific origin. There is not a specified document, although NMFS developed a document that can be used. Any statement that contains the specified information is sufficient to meet the documentation requirements.

Future Plans

At its 2000 meeting, ICCAT adopted a recommendation to develop statistical document programs for swordfish and bigeye tuna, modeled in principle on the BSD program. The new programs will monitor trade in these species and assist in the collection of data. Data collected by the programs will improve scientific stock assessments and enhance the ability of ICCAT to develop effective conservation measures, such as identifying and imposing trade sanctions on nations involved in illegal, unregulated, and unreported fishing activities. A meeting of technical experts will be convened prior to the November 2001 ICCAT meeting to resolve issues relating to the implementation of the programs. The United States intends to participate in the development process. The target for full implementation of the programs is January 1, 2002. As a result of the recently passed shark finning bill, the Secretary of Commerce is required to annually provide Congress with a list of nations whose vessels conduct shark finning including estimates of harvest and value of fins, and recommendations to ensure U.S. actions are consistent with international obligations.

7.1.1 Exports

Existing programs at NMFS monitor exports of fish products and makes Bureau of the Census data available online to the public at www.st.nmfs.gov/st1/trade/index. NMFS also collects detailed export data on Atlantic bluefin tuna, most of which are exported to Japan and all of which are accompanied by a bluefin statistical document. "Exports" may include merchandise of both domestic and foreign origin. Census defines exports of "domestic" merchandise to include commodities which are grown, produced, or manufactured in the United States (e.g., fish caught by U.S. fishermen). For statistical purposes, domestic exports also include commodities of foreign origin which have been altered in the United States from the form in which they were imported, or which have been enhanced in value by further manufacture in the United States. The value of an export is the f.a.s. (free alongside ship) value defined as the value at the port of export based on a transaction price including inland freight, insurance, and other charges incurred in placing the merchandise alongside the carrier. It excludes the cost of loading the merchandise, freight, insurance, and other charges or transportation costs beyond the port of exportation.

Bluefin Tuna Exports

Table 7.1 indicates levels of bluefin tuna exports from the United States. Decreases in Atlantic BFT exports reflect the growing U.S. market for high-quality fresh bluefin tuna meat and the weakened Japanese yen.

Table 7.1 **United States Exports of Bluefin Tuna (Atlantic and Pacific)**. As reported through the Bluefin Tuna Statistical Document Program, 1996 - 1999. U.S. BSD Program, NMFS NERO.

	Commercial Landings of Atlantic BFT (mt dw)	Exports of Atlantic BFT (mt dw)	Exports of Pacific BFT (mt dw)	Total U.S. Exports of BFT (mt dw)
1996	749.8	661.7	60.7	722.4
1997	826.8	698.7	917.3	1,616.0
1998	849.1	658.6	694.2	1,352.7
1999	876.0	733.9	95.7	1,036.8

Information on exports of bluefin tuna for the first half (January through June) of 2000 is also available. Preliminary data indicate that 39.2 mt of west Atlantic bluefin tuna, and 5.4 mt of Pacific bluefin tuna were exported from the United States during this time period. These figures are larger than in 1999 in the same time period possibly due to increased availability of BFT to the U.S. harpoon fishermen, whose season began June 1, 2000. It should be noted, however, that most landings (and exports) of bluefin tuna in the United States occur during the second half of the calendar year.

Shark Exports

NMFS also collects trade data on the export of sharks, although not in the level of detail found in the BSD program. Shark bycatch information is submitted to ICCAT and to the Food and Agriculture Organization (FAO), but no regional fishery management organization exercises management authority over Atlantic shark species as yet. Other regional entities, including the FAO, work to conserve sharks worldwide and gather trade information on shark species. Shark exports are not identified by species code with the exception of dogfish. In addition, they are not identified by specific product code other than fresh or frozen meat and fins. Shark shipments are not identified with respect to the flag of the harvesting vessel or the ocean of origin. Due to the popular trade in shark fins and their high relative value compared to shark meat, shark fins are tracked as a specific product code by U.S. Customs. In 1998, exported shark fins averaged $8.54/kg ($8.95/kg in 1998). In that same year, exported fresh and frozen shark meat averaged $1.80 and $2.97/kg, respectively. Table 7.2 indicates the magnitude of shark exports by the United States from 1995-1999. Sharks are targeted in the coastal Pacific Ocean by the driftnet thresher fishery and are caught incidental to the Bering groundfish (trawl) and tuna and swordfish longline fisheries in the Western Pacific Ocean. However, the Atlantic fishery catches a large number of sandbar and blacktip sharks which are thought to be sold domestically. As a result, it is unknown what percentage of total exports can be attributed to the Atlantic fishery.

Table 7.2 1995-1999 U.S. Exports of Shark Products (kg). Bureau of Census data.

Year	Shark Fins Dried (kg, US$)*		Non-specified Fresh Shark (kg, US$)		Non-specified Frozen Shark (kg, US$)	
1995	NA	NA	99,101	303,319	309,705	929,787
1996	NA	NA	640,677	1,342,273	358,000	969,955
1997	NA	NA	459,542	920,887	439,992	884,588
1998	141,149	1,264,077	524,249	814,319	102,939	250,107
1999	106,723	911,671	270,343	487,610	155,275	461,362

* There was no product code for the export of shark fins prior to 1998. Therefore, any exported shark fins may have been identified as unspecified shark product or as unspecified dried fish.

Note that while exports of fresh shark decreased by nearly half since 1998, exports of frozen shark meat increased minimally. However, the average price quoted for exports of fresh shark increased from $1.55/kg in 1998 to $1.80/kg in 1999. The average price for frozen shark meat increased from $2.42/kg in 1998 to $2.97/kg in 1999. Shark fin exports decreased in 1999 from 1998 levels, possibly as a result of new restrictive legislation in the Pacific which bans the practice of finning and requires fishermen to land weight of fins no more than 10 percent of shark meat landed. In addition, anecdotal information indicates that two Asian airlines have decided against serving shark fin soup on major flights. These high volume buyers may not be requesting the levels of supplies as they had in the past from the United States. The average price for exported shark fins also decreased.

It should be noted that there is no tracking of other shark products besides meat and fins. Therefore, NMFS cannot track trade in shark leather, oil, or shark cartilage products. Additionally, the United States has reported its imports of shark fins since 1964 but has only recently obtained a tariff code for exporting shark fins. Until that time, they were classified under a general heading.

Summary of Atlantic HMS Exports

In 1999, the United States exported 907,190 mt of edible fishery products worth $2.8 billion. Fresh and frozen items (non-canned) were 725,760 mt, valued at $2.2 billion. Atlantic HMS exports are dominated by bluefin tuna and sharks. According to the *Fisheries of the United States, 1999*, 1,220 mt ww of bluefin tuna were landed in the United States in 1998 from all oceans (a 60 percent decrease from the previous year). When compared with 1999 data from U.S. BSD program, after applying a 1.25 multiplier to estimate ww, it appears that roughly 85 percent of bluefin tuna landed in the Unites States were exported. The nature of reporting on sharks, particularly distinctions between fins and whole fish, makes comparison too difficult. However, overseas markets provide a profitable outlet for many U.S. Atlantic HMS fishermen

and may provide superior markets compared with those found in the United States.

7.1.2 Imports

All seafood import shipments are required to be accompanied by a 7501 Customs entry form. The information submitted on this form is analyzed by NMFS and those data are available online at www.st.nmfs.gov/st1/trade/index. As mentioned on the web page, two methods are used to track imports: "general" imports are reported when a commodity enters the country, and "consumption" imports consist of entries into the United States for immediate consumption combined with withdrawals from Customs bonded warehouses. “Consumption” import data reflect the actual entry of commodities originating outside the United States into U.S. channels of consumption. These are the data used by NMFS. Additional detailed information is collected by NMFS on bluefin tuna and swordfish imports and is discussed in further depth below. For both bluefin tuna and swordfish imports, NMFS accesses multiple sources of data and can therefore cross-check reports to ensure compliance with reporting requirements. For example, if a swordfish shipment enters the United States, NMFS receives general data about that shipment (exporting country, date of entry, weight of shipment, general product form) on the entry form. NMFS could then ensure that an importer activity report had been submitted detailing prices and specific product forms. NMFS could also check for a Certificate of Eligibility accompanying the shipment to indicate the flag of the harvesting vessel (sometimes different from exporting country), ocean of origin, and verification that, if it was an Atlantic swordfish, it weighed more than 33 lbs dressed weight when harvested.

Bluefin Tuna Imports

Importers of bluefin tuna are required to obtain an annual tuna dealer permit and to report through the BSD program. Since 1997, NMFS has received U.S. Customs data (derived from Entry Form 7501) on imports of fresh and frozen bluefin tuna and swordfish on a monthly basis. These data allow NMFS to track shipments of bluefin tuna and enforce dealer reporting requirements. United States imports and re-exports of bluefin tuna for 1996 through 1999, as reported through both U.S. Customs and the BSD program, are shown in Table 7.3. The difference in import numbers between the U.S. Customs and BSD data may be explained by a lack of knowledge and compliance with the BSD program by importers, especially those on the Pacific coast. As awareness of the BSD program has improved among importers, the gap between imports reported through the BSD program and Customs has narrowed, largely due to efforts by NMFS in the Northeast Regional Office.

In general, industry sources report that imports of bluefin tuna into the United States are on the rise as the international value of the dollar remains high and the Asian economic crisis continues. The recent rise in the popularity of raw tuna in the United States has also prompted increasing imports of bluefin tuna and dealers are reporting an expanded domestic market for both locally-caught and imported raw tuna. Improvements in BSD compliance combined with the growing U.S. popularity of bluefin tuna are primarily responsible for the large differences between

1997 and 1999 imports shown in Table 7.3.

Table 7.3 **Imports of Bluefin Tuna into the United States**. As reported through the BSD program and U.S. Customs, 1996 - 1999.

	U.S. BSD Program		U.S. Customs Data (mt dw)
	Imports (mt dw)	Re-exports (mt dw)	
1996	1.9	1.3	N/A
1997	5.3	0.4	109.5
1998	99.9	1.9	225.6
1999	367	11.1	554

Information on imports and re-exports of bluefin tuna for the first half (January through June) of 2000 is also available. Preliminary data indicate that 55.7 mt were imported into the United States, and an additional 4.1 mt were re-exported during this period.

Swordfish Imports

Since the United States is a dominant swordfish market and demand for swordfish may provide incentive for nations to export Atlantic swordfish to the United States, NMFS reports imports of swordfish to ICCAT every year in November as part of the U.S. National Report. Data are collected from Customs entry forms, certificates of eligibility, and U.S. importer activity reports. Table 7.4 summarizes the bi-weekly dealer report and the COE data for the 1999 fishing year (June 1999 through May 2000).

Table 7.4 **Swordfish import data collected under the Swordfish Import Monitoring Program (lbs) for the 2000 calendar year.**

	Ocean of Origin			
Flag of Harvesting Vessel	**Atlantic**	**Pacific**	**Indian**	**Total**
Australia	0.0	408.8	17.0	425.8
Barbados	9.4	0.0	0.0	9.4
Brazil	2,763.4	0.0	0.0	2,763.4
Canada	727.6	0.0	0.0	727.6
Chile	0.0	1,866.8	0.0	1,866.8
Columbia	0.0	0.2	0.0	0.2
Costa Rica	0.0	575.9	0.0	575.9
Ecuador	0.0	297.4	0.0	297.4
El Salvador	0.0	25.6	0.0	25.6
Fiji Islands	0.0	118.4	0.0	118.4
Grenada	22.8	0.0	0.0	22.8
Guam	0.0	1.3	0.0	1.3

Indonesia	0.0	0.0	156.3	156.3
Japan	0.0	395.8	0.0	395.8
Mexico	0.0	503.0	0.0	503.0
Micronesia	0.0	0.5	0.0	0.5
	Ocean of Origin			
Flag of Harvesting Vessel	**Atlantic**	**Pacific**	**Indian**	**Total**
Netherland Antilles	**1.6**	**0.0**	**0.0**	**1.6**
New Zealand	**0.0**	**573.9**	**0.0**	**573.9**
Panama	**2.5**	**0.7**	**0.0**	**3.2**
Peru	**0.0**	**9.5**	**0.0**	**9.5**
Philippines	**40.2**	**76.6**	**0.0**	**116.8**
Samoa	**0.0**	**5.6**	**0.0**	**5.6**
Singapore	**0.0**	**42.7**	**0.0**	**42.7**
South Africa	**2,252.5**	**0.0**	**4.3**	**2,256.8**
Taiwan	**584.6**	**88.9**	**8,496.2**	**9,169.7**
Trinidad & Tobago	**29.9**	**0.0**	**0.0**	**29.9**
United States	**4.4**	**0.0**	**0.0**	**4.4**
Uruguay	**312.8**	**0.0**	**0.0**	**312.8**
Venezuela	**19.9**	**0.0**	**0.0**	**19.9**
Vietnam	**0.0**	**62.4**	**0.0**	**62.4**
Total	**6,771.6**	**5,054.0**	**8,673.8**	**20,499.4**

Table 7.5 Swordfish Products imported: 1995-1999. Bureau of Census data.

Year	**Frozen (kg)**			**Fresh (kg)**		**Total for all products (kg)**	
	Fillets	**Steaks**	**Other**	**Steaks**	**Other**	**kg**	**$**
1995			**477,224**		**4,204,043**	**4,681,267**	**31,910,041**
1996			**404,118**		**4,735,478**	**5,139,596**	**32,948,992**
1997	**6,872,850**	**129,935**	**117,983**	**282,106**	**8,195,182**	**15,598,056**	**95,423,460**
1998	**7,224,329**	**207,816**	**259,675**	**92,560**	**8,497,451**	**16,281,831**	**82,577,668**
1999	**4,377,159**	**401,870**	**386,865**	**81,233**	**8,595,843**	**13,842,970**	**71,700,000**

note: Prior to 1997, Customs codes specific to products beyond the frozen and fresh designations, did not exist.

Recent reports indicated that swordfish and shark, as well as some other large predatory fish, may contain methyl mercury levels in excess of the Food and Drug Administration's one part per million (ppm) limit which may decrease demand by the public. FDA scientists responsible for seafood safety are also concerned about the safety of the eating these types of fish, but they agree that the fish are safe, provided they are eaten infrequently (no more than once a week) as part of a balanced diet. The FDA refuses entry to any tested swordfish that exceeds FDA standards for mercury. For more information about seafood safety, refer to the FDA homepage at http://vm.cfsan.fda.gov/~dms/mercury.html.

Shark Imports

The United States imports both fresh and frozen shark meat. These imports and shark fins can be tracked using data from the Customs 7501 entry form. NMFS does not require importers to submit additional data regarding shark shipments. These meat products are reported to be high-quality and are supplied to restaurants and other seafood dealers that import other high-quality seafood products (Rose, 1996). NMFS does not have specific product information on imported shark meat such as the proportion of fillets, steaks, or loins. NMFS also has no data on imports of the condition of shark fins; i.e., wet, dried, or further processed products such as canned shark fin soup. The United States may be an important trans-shipment port for shark fins; shark fins may be imported wet and then exported dried. It is also probable that U.S.-caught shark fins are exported to Hong Kong or Singapore for processing, then imported back into the United States for consumption by urban-dwelling Chinese Americans (Rose, 1996). There is no longer a separate tariff code for shark leather, making it impossible to track imports of shark leather through analysis data from the Customs 7501 entry form. Imports of frozen sharks have more than tripled since 1995 while imports of shark fins have decreased by approximately 50 percent (by weight) (Table 7.6).

Table 7.6 1995-1999 U.S. Imports of Shark Products. Bureau of Census data

Year	Shark Fins Dried		Non-specified Fresh Shark		Non-specified Frozen Shark		Total For All Products	
	kg	US$	kg	US$	kg	US$	kg	US$
1995	142,235	2,348,411	1,255,512	3,577,897	46,889	558,201	1,444,636	6,484,509
1996	60,407	2,270,261	1,330,688	3,618,205	21,244	489,442	1,412,339	6,377,908
1997	77,626	3,060,438	1,191,044	3,044,984	59,641	914,783	1,328,278	7,020,205
1998	62,169	1,698,646	947,545	2,160,985	148,167	1,125,994	1,157,881	4,985,625
1999	59,872	2,104,846	1,095,119	2,038,016	105,398	621,499	1,260,389	4,764,361

Summary of Imported HMS

Atlantic swordfish is an important U.S. import. According to the *Fisheries of the United States, 1999*, approximately $33.4 million of swordfish was landed commercially from all oceans by U.S. fishermen in 1999 (7,267 mt or $2.08/lb). In contrast, $71.7 million (13,814 mt or $2.35/lb) of swordfish was imported. U.S. consumer preference continues to be a driving force for the world's swordfish fisheries and level of demand will no doubt play a role in future harvesting strategies. As Atlantic swordfish quotas decrease over the next few years to support rebuilding efforts, swordfish from the Pacific and Indian Oceans will continue to supply the U.S. market. Tunas are also imported in great quantity, although it is difficult to identify the source

and species of processed tuna products. Bluefin tuna are frequently imported into the United States for transshipment to Japan, the dominant market for high-quality bluefin. However, tracking systems like the U.S. BSD program assist in providing NMFS with information on tuna trade.

7.2 The Use of Trade Data for Conservation Purposes

When appropriate, the SCRS uses trade data on bluefin tuna, swordfish, bigeye tuna, and yellowfin tuna that are submitted to ICCAT as an indication of increased landings. These data can then be used to augment estimates of fishing mortality rates (F) of these species, which improves scientific stock assessments. In addition, these data are used to assist in assessing compliance with ICCAT recommendations and identify those countries whose fishing practices diminish the effectiveness of ICCAT conservation and management measures. ICCAT has adopted a recommendations to address the lack of compliance with quotas in the bluefin tuna and north and south Atlantic swordfish fisheries by ICCAT members. Penalties for members that are not in compliance may include catch limit reductions and, if necessary, trade restrictive measures.

An analysis of vessel sighting and Japanese BSD data led to the determination that Panama, Honduras, and Belize were fishing in a manner that diminished the effectiveness of the bluefin tuna rebuilding program. On August 21, 1997, NMFS implemented a 1996 ICCAT recommendation to prohibit the importation of Atlantic bluefin tuna and its products from Panama, Honduras, and Belize (62 FR 44422). Since that time, ICCAT has continued to communicate with these nations in an attempt to encourage compliance with ICCAT measures. In 1999, ICCAT recommended that the trade restrictions on Panama be lifted as a result of the Government of Panama's recent efforts to substantially reduce fishing vessel activities deemed inconsistent with ICCAT measures. Honduras and Belize continue to have vessels that fish in a manner that diminishes the effectiveness of ICCAT's conservation and management measures.

In 1999, ICCAT also identified Equatorial Guinea, an ICCAT member, as a country whose vessels were fishing in a manner that diminishes the effectiveness of ICCAT conservation and management measures for Atlantic bluefin tuna. Import data from 1997-1999 reveal significant exports of Atlantic bluefin tuna by Equatorial Guinea despite the fact that the country had a zero catch limit during that time period. The Government of Equatorial Guinea has not responded to ICCAT inquiries and has reported no bluefin tuna catch data to ICCAT. As a result, ICCAT recommended trade restrictions as a penalty for non-compliance. Therefore, consistent with the 1999 ICCAT recommendation, NMFS prohibited the importation of Atlantic bluefin tuna and its products from Equatorial Guinea.

In 2000, NMFS took the following actions regarding import restrictions, consistent with 1999 recommendations from the International Commission for the Conservation of Atlantic Tunas (ICCAT):

- Prohibit the importation of Atlantic bluefin tuna and its products from Equatorial Guinea

- Prohibit the importation of Atlantic swordfish and its products from Belize and Honduras

- Remove a prohibition on the importation of Atlantic bluefin tuna from Panama

At its 1999 meeting, ICCAT identified 11 countries under its 1998 unregulated and unreported catches resolution as nations whose large-scale longline vessels have been fishing for ICCAT species in a manner that diminishes the effectiveness of ICCAT conservation and management measures. At its 2000, ICCAT identified 5 of the original 11 countries (Belize, Honduras, Equatorial Guinea, Cambodia, and St. Vincent and the Grenadines) for a second time and adopted a measure requiring its members to ban the import of bigeye tuna harvested by vessels of these five countries. Data obtained by monitoring international trade in highly migratory species was instrumental in making the decision to impose trade restrictions. The role of trade data in assisting in the identification of problem fishing will likely increase in importance in the future.

At the 2000 ICCAT meeting, parties agreed to prohibit the importation of Atlantic bigeye tuna and its products from Belize, Cambodia, Equatorial Guinea, Honduras, and St. Vincent and the Grenadines. Consistent with this recommendation, the United States will implement such a trade restriction in 2001, except for Honduras which would be effective January 1, 2002, consistent with the recommendation from ICCAT.

7.5 Conclusions and Future Plans

NMFS recognizes the limitations of using trade data to monitor conservation and management of HMS, particularly to identify IUU vessels operating in the ICCAT management areas. However, NMFS has been successful at using these tools to collect more information about fisheries, harvesting practices, markets, and processors related to these species. Improved data collection depends on all harvesting nations and their ability and willingness to monitor fisheries and submit complete data sets to regional and global organizations such as FAO. These nations could potentially be assisted by the development of guidelines or standards for monitoring trade.

NMFS monitors trends in trade for all federally managed species and will identify any need for additional harmonized tariff codes. While a request of the International Trade Commission for an additional tariff code is not always fulfilled, NMFS has been successful in the past to solicit a code for shark fins, and specific product codes for swordfish (e.g., fillets and steaks). The use of more detailed bluefin and swordfish trade data has recently proved to be an effective tool for monitoring international activities. Combined with vessel sighting information, these data provide clues about illegal, unreported, and unregulated fishing activities on the high seas. NMFS expects that ICCAT will increase its use trade data in its efforts to monitor, assess, and control fishing activities and to conserve the international resources under its authority.

Section 7 References

Rose, D. 1996. An Overview of World Trade in Sharks. TRAFFIC International. 105 pp.